

### ABSTRACT

The invention discloses multiple genes related to age-related macular degeneration (AMD) and/or phagocytosis by RPE cells of the eye, and methods and compositions for detecting and treating AMD and other retinal degenerative conditions based on these phagocytosis-related and/or AMD-related genes. Also provided are animal models useful for testing therapeutic compounds and treatment protocols for AMD, and gene arrays including polymorphic variants of phagocytosis-related and/or AMD-related genes, useful for genetic screening of nucleic acid samples from subjects to obtain profiles of polymorphic variant sequences in a plurality of genes associated with AMD.